REMARKS

This communication responds to the *Office Action* dated October 28, 2010. Claims 1, 6, 10, and 12 are amended. Support for the claim amendments may be found in at least paragraphs [0019], [0024], and [0025] of Applicants' *Published Application.*[1] No claims are currently canceled and claims 3, 8, and 11 were previously canceled. As a result, claims 1, 2, 4-7, 9, 10, and 12-20 remain pending in this application.

Claim Objections

Claims 13, 14, 17, and 18 were objected to for lacking antecedent basis. Specifically, the Examiner alleged that "the claims refer to the limitation 'child nodes' . . . and 'parent nodes' . . . which has not been recited in any of the preceding claims."[2] Applicants traverse this objection. Claim 13, which depends from independent claim 1, and claim 17, which depends from independent claim 6, both recite "propagating the complexity values of child nodes in the layout component hierarchy to a parent node." There is nothing in claims 13 or 17 that indicates that the child node or parent node are claiming any antecedent basis (e.g., the use of "the" before either term) to their respective base claim. Claims 14 and 18 depend directly from claims 13 and 17, respectively. As such, the terms "the parent node" and "the child node" in claims 14 and 18 have antecedent basis by virtue of the recitation of "a parent node" and "child nodes" in claims 13 and 17, respectively.

Furthermore, a hierarchy necessarily has at least one parent node and at least one child node. As such, a failure to provide explicit antecedent basis for terms, which Applicants assert is not the case, does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite.[3] Inherent components of elements recited have antecedent basis in the recitation of the components themselves. For example, the limitation "the outer surface of said sphere" would not require an

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[1] U.S. Published Patent Application No. 2007/0162874.
[2] *Office Action* at 4.
[3] *Energizer Holdings Inc. v. Int'l Trade Comm'n, 435 F.3d 1366, 77 USPQ2d 1625 (Fed. Cir. 2006)(holding that "anode gel" provided by implication the antecedent basis for "zinc anode"); Ex parte Porter*, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992) ("controlled stream of fluid" provided reasonable antecedent basis for "the controlled fluid").

antecedent recitation that the sphere has an outer surface.[4] Therefore, Applicants request the Examiner reconsider and withdraw these claim objections.

The Rejection of Claims Under § 103

Claims 1, 2, 4-7, 9, 10, and 12-20 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over by James Noble *et al.* ("Interactive Design Metric Visualization: Visual Metric Support for User Interface Design" IEEE 1996; *Noble*) in view of Parker *et al.* (U.S. Patent No. 5,600,789; *Parker*) and in view of Tim Comber and John Maltby ("Investigating Layout Complexity" March 2003; *Comber*).[5]

According to the U.S. Circuit Court of Appeals for the Federal Circuit (CAFC), when determining whether a claim is obvious, an examiner must make "a searching comparison of the claimed invention – including **all its limitations** – with the teaching of the prior art."[6] "**All words** in a claim must be considered in judging the patentability of that claim against the prior art."[7] Applicants respectfully submit that a determination of obviousness is not established for at least the reason that the scope and content of the cited references, even if combined, do not teach or suggest all claimed elements or support rational inferences that one skilled in the art reasonably would be expected to draw to reach all claimed elements.

Independent claim 1 recites, in part,

> [A] library having complexity evaluation functions to determine complexity values of layout components of the respective layout component hierarchies, where **each complexity evaluation function is specific to the layout component and the device class** to which the complexity evaluation function is applied, the complexity values being numerical values;
>
> an aggregator to **aggregate**, using one or more processors, the complexity values **into a single complexity value for each device class** according to the corresponding layout component hierarchy of the respective device class specific representation; and

[4] See *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359, 61 USPQ2d 1216, 1218-19 (Fed. Cir 2001) (holding that recitation of "an ellipse" provided antecedent basis for "an ellipse having a major diameter" because "[t]here can be no dispute that mathematically an inherent characteristic of an ellipse is a major diameter"). MPEP § 2173.05(e)

[5] *Id.* at 4-5.

[6] *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995), emphasis added; *see also Ex Parte Wada and Murphy*, Appeal No. 2007-3733 (BPAI 2008).

[7] *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970), emphasis added; *see* MPEP § 2143.03.

> a complexity display to visually present the aggregated complexity value for each device class, the aggregated complexity value comprising a numerical value.[8]

Each of independent claims 6, 10, and 12 recite at least some claim language as that emphasized above with respect to claim 1.

In the Response to Arguments, the Examiner alleged that the library is taught by a suite of metrics which "is a collection of complexity functions" referring to sections 3.1-3.3 of *Noble* and an example of a layout uniformity function in *Nobel*.[9] However, the cited portions of *Noble* merely indicate that "a suite of five design metrics has been developed for guiding user interface designers."[10] Specifically with reference to the layout uniformity metric, the function "simply measures the graphical uniformity or orderliness of a user interface layout" and requires an input, the total number of components and "the number of different heights, different widths, different top edge alignments, left edge alignments, bottom edge alignments, and right edge alignments of visual components."[11] The other metrics of the alleged library of *Nobel* are a task concordance which "is a measure of the fit between the expected frequency of various tasks and their relative difficulty using a given interface design,"[12] a visual coherence which "measures how closely visual organization matches the semantic relationships among concepts associated with components,"[13] essential efficiency which is "a measure of expected task efficiency,"[14] and task visibility which is "a measure of accessibility of features."[15]

None of these metrics of the alleged library of *Noble* are a "complexity evaluation function [that] is specific to the layout component and the device class to which the complexity evaluation function is applied" as recited in Applicants' claim 1. For example, "an evaluation function exists for each layout component with respect to the various device class DC1, DC2."[16] Therefore, *Noble* cannot teach "a library having complexity evaluation functions to determine

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[8] Emphasis added.
[9] *Office Action* at 3.
[10] *Nobel* at section 3, pg. 214.
[11] *Id.* at section 3.2, pg. 214.
[12] *Id.* at section 3.1, pg. 214.
[13] *Id.* at section 3.3, pg. 215.
[14] *Id.* at section 3, pg. 214.
[15] *Ibid.*
[16] *Published Application* at [0019].

complexity values of layout components of the respective layout component hierarchies, where each complexity evaluation function is specific to the layout component and the device class to which the complexity evaluation function is applied, the complexity values being numerical values" as recited in Applicants' claim 1.

In the Response to Arguments, the Examiner further maintained the rejection of the aggregator limitation by citing to Figure 4 of *Noble* indicating that because a number of metrics can be displayed at one time according to *Noble*, this is aggregating the metrics into a single display."[17] Applicants strongly traverse this line of reasoning.

Figure 4 of *Noble* merely shows the alleged aggregation as a series of graphical overlays whereby "[e]ach metric is visualized using . . . task pathlines, interface components, and adaptive gridlines and coherence grouplines."[18] The alleged "aggregation" in *Noble* is nothing more than overlays of separate metrics. These metrics are not numerical values. Therefore, *Noble* cannot teach aggregating "the complexity values into a single complexity value for each device class" where the complexity value are numerical values as recited by Applicants' claim 1.

In fact, *Noble* specifically states that

> Our own initial experiments suggest that displaying the numeric value of design metrics may actually be a deterrent to good design because, instead of attending to the overall structure of the layout and the broader design issues, designers can become too focused on "the numbers," maximizing the numerical values even at the expense of better layout.[19]

Thus, *Noble* **teaches away** from displaying a numerical value for each design metric because designers will be too focused on maximizing values. For this additional reason, *Noble* cannot teach aggregating "the complexity values into a single complexity value for each device" especially in light of the fact that *Noble* cannot have an "aggregated complexity value comprising a numerical value" as this would directly contradict one of the stated disadvantages that *Noble* is trying to overcome.

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[17] *Office Action* at 3.
[18] *Noble* at section 4.4, pg. 217.
[19] *Id.* at section 3.4, pg. 215.

Furthermore, the Examiner relied exclusively on *Comber* to disclose "a complexity display to visually present an aggregated complexity value for each device class, the aggregated complexity value comprising a numerical value" cited to table 8 of *Comber*.[20] However, table 8 of *Comber* merely shows a complexity value for each screen. The Examiner alleged that each screen is a device class.[21] However, there is no support anywhere in *Comber* to maintain the Examiner's allegation. To the contrary, one of the purposes of *Comber* is to evaluate usability of screen designs with layout complexity for GUI designs.[22] For example, screens 1-4, which are referred to in table 8, were designed with different layout complexity and shown to users for feedback."[23] "The subjects were asked to choose the most preferred screen (table 7)" and "[t]able 8 summaries the results"[24] Therefore, *Comber* is only directed to GUI design whereby different screen layouts are contemplated. These screen layouts are in no way related to a device class nor are the screens, in themselves, a device class.

For at least these reasons, the scope and content of *Noble*, *Parker*, and *Comber*, even if combined, do not teach or suggest all claimed elements or support rational inferences that one skilled in the art reasonably would be expected to draw to reach all claimed elements. As a result, a determination of obviousness is not established with respect to independent claims 1, 6, 10, and 12. Further, since claims 2, 4, 5, 7, 9, and 13-20 depend from claims 1, 6, 10, or 12, claims 2, 4, 5, 7, 9, and 13-20 are allowable for at least the same reasons as those provided for their respective base claim. Furthermore, this dependent claim may contain additional patentable subject matter.

For example, in rejecting claim 13, the Examiner alleged that *Noble* "disclose the complexity indicator of claim 1, wherein the aggregator is to aggregate by propagating the complexity values of child nodes in the layout component hierarchy to a parent node" citing to "figure 3, the two different Print tasks (parent nodes) complexity [whereby] tasks with the longer line indicate higher complexity."[25] However, claim 13 recites "propagating the complexity

[20] *Office Action* at 6-7.
[21] *See, Id.* at 7.
[22] See *Comber* at *Introduction*, pg. 210.
[23] *Id.* at section 3.3.2, pg. 223.
[24] *Id.* at section 3.3.4, pg 225.
[25] *Office Action* at 16-17.

values" with "the complexity values being numeric values." *Noble* clearly does not teach or even suggest "aggregate[ing] by propagating the complexity values of child nodes in the layout component hierarchy to a parent node" since *Noble* does not teach the use of any numerical values.

CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at (408) 278-4057 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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